REMARKS

Favorable reconsideration of this application is requested in view of the above amendments and the following remarks. Claims 7 and 8 are canceled without prejudice to or disclaimer of the subject matter recited therein. Claims 1 and 12 are amended. The revisions to claims 1 and 12 are supported, for example, at page 7, lines 21-24 in the specification. Claims 20-24 are added. New claims 20 and 21 are supported, for example, at page 15, lines 33-36. New claims 22 and 24 are supported, for example, at page 9, lines 17-20. New claim 23 is supported, for example, by the original claims and at page 7, lines 21-24 in the specification.

Claims 1-6, and 9-24 are pending, with claims 1, 12, and 23 being independent.

Claim rejections - 35 U.S.C. § 103

Claims 1-8 and 11 stand rejected as being anticipated by U.S. Patent No. 6,151,427 (Satorius) in view of "being well known in the art" and further in view of U.S. Patent No. 5,801,389 (Mizutani). Applicants respectfully traverse this rejection. Applicants understand that the "being well known in the art" aspect of the rejection refers to ultraviolet light having a wavelength less than 380 nm. While Applicants do not contest that ultraviolet light was known, Applicants do not concede that the application of ultraviolet light to Satorius and Mizutani would have been obvious.

Claim 1 is directed to an ultraviolet acoustooptic device. The acoustooptic medium is formed of an oxide single crystal containing at least boron as a component of its unit cell, and the acoustooptic medium transmits ultraviolet light therethrough. By this arrangement, the ultraviolet acoustooptic device has favorable acoustooptic characteristics with respect to ultraviolet light, while at the same time exhibiting resistance to optical damage and laser damage from the ultraviolet light that passes through the acoustooptic medium.

Satorius does not teach or suggest at least the above-identified features of claim 1. Satorius merely discloses an optical filter that causes an optic fiber to vibrate using ultrasonic waves to filter out light with a particular wavelength. Satorius does not teach or suggest the use of boron as a component of the acoustooptic medium. Nor does Satorius teach or suggest that the acoustooptic medium formed with boron transmits ultraviolet light therethrough. Therefore, Satorius does not teach or suggest the features of claim 1, nor does the structure disclosed in Satorius obtain the benefits of the claimed structure as discussed above.

Mizutani does not remedy the deficiencies of Satorius. Mitzutani also does not teach or suggest the use of boron as a component of the acoustooptic medium. Thus, Mizutani also does not teach or suggest that the acoustooptic medium formed with boron transmits ultraviolet light therethrough. Therefore, Mizutani also does not teach or suggest the features of claim 1, nor does the structure disclosed in Mizutani obtain the benefits of the claimed structure as discussed above.

Accordingly, Applicants respectfully submit that claim 1 is allowable over the cited references. In addition, claims 2-8 and 11 depend from claim 1, and are believed allowable for at least the same reasons. Moreover, each of these dependent claims recites additional features in combination with the features of its respective base claim, and is believed allowable in its own right.

Claims 9 and 10 stand rejected as being obvious over Satorius in view of "being well known in the art," in view of Mizutani, and further in view of U.S. Patent No. 4,610,754 (Gaida). Applicants respectfully traverse this rejection.

Claims 9 and 10 depend from allowable claim 1, which is allowable over Satorius and Mizutani for the reasons discussed above. Gaida does not remedy the deficiencies of Satorius and Mizutani. Accordingly, Applicants therefore submit that claims 9 and 10 are also allowable over the cited references for the same reasons as claim 1. Applicants do not concede the correctness of this rejection.

Claims 12-15, 18, and 19 stand rejected as being obvious over U.S. Patent No. 4,661,699 (Welmers) in view of "being well known in the art," and further in view of Mizutani.

Claim 12 is directed to an optical imaging apparatus. The apparatus includes an ultraviolet acoustooptic device with an acoustooptic medium formed of an oxide single crystal containing at least boron as a component of its unit cell. The acoustooptic medium transmits ultraviolet light therethrough. By this arrangement, the ultraviolet acoustooptic device has favorable acoustooptic characteristics with respect to ultraviolet light, while at the same time exhibiting resistance to optical damage and laser damage from the ultraviolet light that passes through the acoustooptic medium.

Welmers is directed to a light source and an optical imaging apparatus. However, Welmers does not teach or suggest an ultraviolet acoustooptic device as recited claim 12. Welmers does not teach or suggest the use of boron as a component of an acoustooptic medium.

Nor does Welmers teach or suggest that the acoustooptic medium formed with boron transmits ultraviolet light therethrough. Indeed, Welmers does not teach or suggest the use of ultraviolet light at all.

Mitzutani does not remedy the deficiencies of Welmers. As noted above with respect to claim 1, Mitzutani does not teach or suggest either the use of boron as a component of an acoustooptic medium or that an acoustooptic medium that is formed with boron transmits ultraviolet light therethrough.

The features of claim 12 identified above were not known in the art at the time the present application was filed. Accordingly, Applicants respectfully submit that claim 12 is allowable over the cited references.

In addition, claims 13-15, 18, and 19 depend from claim 12, and are believed allowable for at least the same reasons. Moreover, each of these dependent claims recites additional features in combination with the features of its respective base claim, and is believed allowable in its own right.

Claims 16 and 17 stand rejected as being obvious over Satorius in view of being well known in the art, in view of Mizutani, and further in view of Gaida. Applicants respectfully traverse this rejection. Applicants note that the statement of the rejection refers to Gaida as the primary reference as well as the secondary reference. Applicants assume from the discussion of the references that Satorius is the primary reference.

Claims 16 and 17 depend from allowable claim 12, which is allowable over Mizutani for the reasons discussed above. Neither Satorius nor Gaida remedy the deficiencies of Mizutani. Accordingly, Applicants therefore submit that claims 16 and 17 are also allowable over the cited references for the same reasons as claim 12. Applicants do not concede the correctness of this rejection.

Newly presented claims 20-22 depend from claim 12 and are believed allowable for at least the reasons identified above with respect to claim 12.

Newly presented claims 23 and 24 are directed to methods for diffracting ultraviolet light by an ultraviolet acoustooptic device. The device includes an acoustooptic medium formed of an oxide single crystal containing at least boron as a component of its unit cell and the medium transmits ultraviolet light therethrough. The method includes the steps of allowing ultraviolet

light having a wavelength of 380 nm or shorter to enter the acoustooptic medium, and applying a radio frequency to the radio-frequency signal input part so that the ultraviolet light is diffracted.

Submitted herewith this response is an Information Disclosure Statement identifying EP 1243947A2 (Ross). Applicants respectfully submit that Ross also does not teach or suggest at least the above identified features of the claims. Although Ross discloses the use of boron, Ross is directed to a reflection-type diffraction device. As such, Ross does not teach or suggest an acoustooptic medium that is formed with boron and that transmits ultraviolet light therethrough.

Applicants respectfully submit that none of the cited references teaches or suggests such features.

In view of the above, favorable reconsideration in the form of a notice of allowance is requested.

Respectfully submitted,

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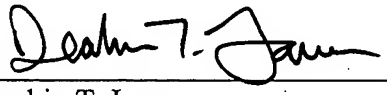

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